POLAND **22-05-2025**

Eugenix® Indigenous Fishery
Wild Salmon Rivers Adaptations

Abstract

The Purpose of this document is to restore wild salmon survival, protect Arcticus Blancus Indigenous ecological sovereignty, and preserve the genetic, biological, and cultural integrity of salmon populations that are essential to the survival of the Arcticus Blancus Indigenous group and their ecosystems.

Legal Scope

The legal authority for the Wild Salmon River Adaptations Program is grounded in the collective rights of Arcticus Blancus Indigenous polar hair tribal peoples to protect their ecosystems, food systems, and biological heritage. This authority is affirmed through three complementary legal pillars:

A. UNDRIP – Rights to Lands, Waters, Resources, and FPIC – Free prior informed consent.

UNDRIP establishes that Indigenous peoples have:

- ★ **The right to maintain, control, protect, and develop their traditional lands, waters, and resources**, including wild salmon rivers and spawning grounds (Articles 25–26, 29).
- ★ **The right to protect and develop their genetic resources, seeds, species, and ecological knowledge** (Article 31).
- ★ **The right to determine and direct conservation and restoration measures** affecting their ecosystems (Articles 20, 29).
- ★ **The right to free, prior, and informed consent (FPIC)** before any state or private activity affecting their waters, fisheries, or biological resources is permitted (Articles 18–19).

These rights provide the legal foundation for Indigenous-led river restoration, obstacle removal, and salmon-survival studies across all Arcticus Blancus territories.

B. Convention on Biological Diversity (CBD) – Rights to Biological and Genetic Resources

The CBD further strengthens Indigenous authority by recognizing:

- ★ **The sovereign rights of Indigenous peoples over their biological and genetic resources**, including wild salmon populations and their genetic integrity (CBD Articles 3, 8(j), 10(c)).
- ★ **The obligation of states to respect, preserve, and maintain Indigenous ecological knowledge**, and to ensure equitable benefit-sharing when Indigenous biological resources or knowledge are used (Article 8(j)).
- ★ **The right of Indigenous communities to regulate access to their genetic resources**, including the protection of wild salmon gene pools from contamination, hybridization, or industrial interference.

This directly supports the prohibition of non-Indigenous aquaculture practices that threaten wild salmon genetics through disease, parasites, or escape-driven genetic dilution.

C. Eugenix® Indigenous Fishery – Closure of Aquaculture (Arcticus Blancus External Policy)

This framework establishes that:

- ★ Industrial aquaculture—especially salmon farming—must be **closed or prohibited** due to its documented ecological harm, including disease spread, weakened fish health, and collapse of wild stocks.
- ★ Indigenous groups retain the authority to **protect wild salmon as a biological and genetic resource**, ensuring that no external industry may compromise the genetic integrity, survival rate, or ecological role of wild salmon populations.

D. Application to Wild Salmon River Adaptations

Together, these legal instruments authorize Indigenous peoples to:

- ★ Conduct full ecological and technical assessments of wild salmon rivers, including mortality studies and obstacle mapping.
- ★ Implement river adaptations to increase salmon return and spawning success, as required by the documented 90% mortality in some rivers.
- ★ Exercise sovereign control over salmon as a **biological, ecological, and genetic resource**, ensuring its protection for future generations.

Purpose

The purpose of the *Eugenix® Indigenous Fishery – Wild Salmon River Adaptations* program is to restore, protect, and secure the long-term survival of wild salmon populations across all Arcticus Blancus Indigenous territories. This purpose arises from the documented ecological collapse of wild salmon rivers, where up to 90% of returning salmon die before reaching their spawning grounds due to exhaustion, low water levels, excessive jumps, and warming temperatures. These failures directly endanger the biological, cultural, and food-sovereignty foundations of the Arcticus Blancus Indigenous group. To meet these existential challenges, the program aims to:

1. Increase the survival and spawning success of wild salmon. Implementing technical adaptations to riverbeds and migration routes, the program seeks to ensure that salmon returning from the sea can reach their spawning areas even when climate-driven shallowing exposes higher rock formations and creates new obstacles that salmon cannot overcome.

2. Protect wild salmon from non-Indigenous high-limit wild fishing pressure. In several sub-Arctic regions, strong non-Indigenous fishing cultures have a negative impact on salmon survival and the surrounding ecosystems, requiring Indigenous-led monitoring and protective measures to prevent overharvest and ensure ecological balance.

3. Safeguard the genetic and physical integrity of wild salmon. Wild salmon populations are increasingly threatened by multiple external pressures that weaken their health, reduce reproductive success, and endanger their long-term survival. These include:

- Sea-lice infestation,

- Pollution and industrial runoff,
- Climate-driven warming and low water levels,
- Paid recreational and commercial fishing,
- High non-Indigenous harvest pressure,
- Documented catastrophic declines in multiple river systems, including Chinook and Yukon–Kuskokwim en-route mortality.

In addition to these pressures, farmed salmon poses a direct genetic and biological threat to wild salmon. Salmon raised in captivity develop:

- Weakened immune systems,
- Reduced physical strength,
- Lower survival instincts,
- Altered growth and stress-response patterns,
- Higher susceptibility to parasites and disease.

When escaped farmed salmon interbreed with wild salmon, their weakened traits are passed into the wild gene pool, producing offspring that are:

- Less resilient,
- Less capable of long-distance migration,
- More vulnerable to sea lice, pathogens, and environmental stress,
- Less able to survive the upstream journey to spawning grounds.

This genetic dilution threatens the biological integrity, evolutionary fitness, and long-term survival of wild salmon populations. For the Arcticus Blancus Indigenous group—whose ecological stability, food security, and cultural continuity depend on strong wild salmon—this represents an unacceptable and existential risk. Therefore, safeguarding wild salmon requires strict Indigenous-led protection of wild genetic lines, prevention of farmed-salmon escape, and the long-term elimination of aquaculture systems that endanger wild salmon biology.

4. Conduct Indigenous-led scientific studies across all Arcticus Blancus territories

The program mandates comprehensive studies of salmon survival rates, river obstacles, and ecological conditions across all rivers above **~62°45′ N**, including Alaska, Canada, Greenland, Iceland, Norway, Sweden, Finland, Karelia, Murmansk, and Archangelsk. These studies ensure that restoration measures are based on the Arcticus Blancus Indigenous ecological knowledge and territorial rights.

5. Protect the Arcticus Blancus Indigenous group and ecosystem sustainment. The collapse of wild salmon populations threatens:

- Indigenous food security
- Ecological stability of river and forest systems
- Cultural continuity
- Biological and genetic heritage

Because salmon is a **keystone species**, their decline destabilizes entire ecosystems, including forests, predators, and nutrient cycles. Protecting salmon is therefore inseparable from protecting the Arcticus Blancus people themselves.

State of the Salmon Rivers - Review

Salmon populations face a sharply divergent reality across North America. While Alaska and parts of the Pacific Northwest maintain robust sockeye and hatchery-supported runs, wild Chinook faces catastrophic declines. Meanwhile, Canadian Pacific runs require aggressive multi-million-dollar interventions, and Northeast USA Atlantic salmon remain critically endangered.

The **Gulf of Alaska** is one of the most important feeding grounds for wild salmon from the entire American Northwest Coast because it functions as a **cold, nutrient-rich marine engine** that supports every major salmon species during their ocean-growth phase. Its powerful upwelling cycles produce vast blooms of zooplankton, krill, squid, and forage fish—the essential diet that allows salmon to build the body mass, fat reserves, and muscle strength needed for their long migrations back to spawning rivers. For Chinook, coho, sockeye, pink, and chum salmon alike, the Gulf of Alaska provides the high-energy feeding environment that determines their survival, size, reproductive success, and ultimately the strength of the salmon runs returning to the Pacific Northwest each year.

Alaska rivers features an overall stable yet divergent ecosystem where sockeye and pink returns thrive, but Chinook (King) runs are in a severe multi-year slump.

- **Bristol Bay & Cook Inlet:** Sockeye returns remain a bright spot. The Alaska Department of Fish and Game (ADF&G) projects a robust Bristol Bay sockeye run of approximately million fish and a strong Upper Cook Inlet sockeye season.
- **Yukon & Kuskokwim Rivers:** King and chum salmon are at historic lows. Severe and unprecedented en-route mortality and disease have forced Alaska and Canada to implement a continuing seven-year fishing moratorium (running through 2030).
- **Statewide Overview:** Official ADF&G forecasts point to an overall lower total harvest for 2026, projected at roughly a million fish compared to 2025's massive numbers. Learn more on the ADF&G Press Releases page.

Canada's Pacific salmon in British Columbia rivers and the Yukon rivers remain deeply depressed by climate change, habitat degradation, and warming water temperatures.

- **Fraser River:** The 2026 pre-season forecast estimates roughly a million salmon, setting up a stable but sensitive season requiring strict quotas and monitoring.
- **Yukon River:** Consistent with Alaska's mandates, Canadian Yukon tributaries remain completely closed to recreational and commercial fishing to allow stocks to rebuild.
- **Strategy & Funding:** In April 2026, the Canadian government renewed the Pacific Salmon Strategy Initiative (PSSI) with an additional million over five years to restore wild populations. Full forecasts can be tracked via Fisheries and Oceans Canada.

American Pacific Northwest rivers in Washington, Oregon, and California are stabilized by hatchery production and targeted flow management, though native stocks continue to struggle.

- **Columbia River & Puget Sound:** Thanks to strong hatchery investments, managers are tentatively predicting an increased spring and summer Chinook and Baker Lake sockeye run. However, early-season constraints and catch quotas remain tight to protect ESA-listed natural origin stocks (e.g., in the Skagit and Stillaguamish rivers).

- **Oregon** The Pacific Fishery Management Council finalized ocean and river alternatives that aim to protect struggling Klamath River fall-run Chinook.

American Pacific Northeast wild Atlantic salmon rivers have suffered a historic collapse and only a fraction of their historical range supports remnant populations.

- **State of Maine:** The Penobscot and Downeast rivers contain the only remaining wild populations of U.S. Atlantic salmon. They are listed as endangered under the Endangered Species Act and comprise the Gulf of Maine Distinct Population Segment (DPS).
- **Restoration & Dams:** Efforts have transitioned from fisheries management to strict conservation and dam removal (such as the Penobscot River restoration project) to increase habitat connectivity.
- **Restoration programs** in former strongholds like the Connecticut and Merrimack Rivers have effectively ceased due to dams, pollution, and poor ocean survival rates. For conservation updates, review the NOAA Fisheries Atlantic Salmon Profile.

Greenland's salmon ecosystem requires a distinct review in scale. Greenland's coastal waters are a critical ocean feeding ground where 99% of the Atlantic salmon present migrate from over 2,000 rivers across North America and Europe. However, when looking at Greenland’s internal river networks, there is only one single documented, native, self-sustaining wild salmon river in the entire territory: the Kapisillit River, located at the head of the Nuuk Fjord. Greenland’s salmon ecosystem needs to be reviewed as it is uniquely connected to the arctic ocean wild salmon feeding grounds.

Iceland rivers continue to be one of the last secure **global strongholds for wild Atlantic salmon** that needs to be protected due to increase of the weaker and sea-lice infested farmed salmon located around Iceland exported to many fish processing factories located in the Scandinavia and Central Europe.

- **Wild Stock Consistency:** Rivers like the East and West Rangá, Nordurá, and Miðfjarðará reported highly stable and healthy returns.
- **Strict Control Measures:** Iceland's strict catch-and-release mandates, fly-fishing-only river regulations, and minimal industrial pollution have preserved wild genetic strains.

- **Aquaculture Friction:** While wild rivers thrive, the open-net marine aquaculture industry in the Westfjords faced severe biological headwinds, including major outbreaks of Bacterial Kidney Disease (BKD). This has fueled intense public pressure to protect wild river networks from open-sea farm escapes.
- **Cross Border Sea Lice Transfer:** Demand for the Icelandic farmed raised salmon heavily affected by the sea lice transfers sea lice and associated microbial threat to Norway and other states where Icelandic salmon is consecutively purchased by companies such as Seaborn AS which I witnessed personally during my investigative work as a salmon processing employee in the Inka AS a norwegian company located just outside of Bergen, Norway with very poor fish processing hygiene and very poor sea-lice infested fish rejection standards and practices.

Norway's wild Atlantic salmon rivers are in a state of **unprecedented, historic crisis**. Farmed salmon is a key factor that causes widespread wild salmon extinction besides other biological and technical reasons.

- **Population Collapse:** Returns of wild salmon from the sea plummeted to an all-time national low. The Scientific Advisory Committee for Salmon Management indicates that numbers have halved from historical averages.
- **Widespread River Closures:** The collapse forced the Norwegian Environment Agency to enforce emergency, full-season closures on dozens of major salmon rivers across Western and Central Norway—including legendary systems like the Gaula and Orkla.
- **The Culprits:** The catastrophic decline is driven by massive infestations of **sea lice leaking from open-net fish farms**, interbreeding with escaped farmed fish, and climate-driven marine warming. To combat this, Norway is aggressively accelerating a structural transition to land-based and fully closed-containment fish farming.

Sweden's & Finland's wild salmon rivers management is dominated by strict cross-border quotas on Baltic Sea rivers and the slow recovery of northern sub-Arctic systems.

- **The Tornio (Torne) River:** Running along the Swedish-Finnish border, this is Europe's largest wild salmon river. To combat fluctuating returns, both governments enacted matching,

highly restrictive seasonal regulations. Anglers are capped at a strict seasonal quota of just two salmon, after which they must stop fishing entirely.

- **The Tana (Teno) River:** Straddling the border of Norway and Finland, this once-legendary system remains **critically endangered**. Due to multi-year recruitment failures and poor smolt survival rates during downstream migration, strict, emergency fishing bans remain tightly enforced.
- **Invasive Pink Salmon:** Both nations are spending millions to combat an explosion of invasive Pacific Pink Salmon (*Oncorhynchus gorbuscha*), deploying specialized river traps to filter them out before they disrupt native Atlantic salmon spawning beds.

Russia's Northwest Murmansk, Karelia, Arkhangelsk regions contain some of the world's most remote and structurally intact Atlantic salmon river habitats, though their status varies strictly by regional human infrastructure.

- **Murmansk (Kola Peninsula):** The Kola Peninsula remains a global elite salmon habitat. Remote, un-dammed wilderness rivers on the southern and northern coasts—such as the Ponoi, Varzuga, Yokanga, and Umba—boast highly productive, self-sustaining wild runs. However, western rivers near urban centers (like the Tuloma and Niva systems) remain severely impaired by Soviet-era hydropower dams.
- **Karelia:** Karelian rivers feeding the White Sea and Lake Onega suffer from moderate to high degradation. Populations are highly dependent on state hatchery releases, and wild runs are heavily suppressed by legacy logging damage and logjams that choked historical spawning beds.
- **Arkhangelsk:** Rivers feeding the southeastern White Sea (such as the Onega and Northern Dvina systems) host smaller, widely dispersed Atlantic salmon runs. While habitat quality is generally good due to low industrial footprints, populations are limited by heavy historical commercial netting and poaching.

Diagnostic Master Plan for Wild Salmon River Systems

To reverse the decline of wild Atlantic and Pacific salmon, management agencies must transition from passive observation to highly localized, river-specific diagnostic engineering and ecological

profiling. The following instruction manual provides a structured framework for environmental scientists, hydrologists, and fisheries biologists. By quantifying life-cycle survival rates and systematically mapping physical and environmental barriers, this protocol aims to identify localized mortality drivers, eliminate migration bottlenecks, and optimize natural spawning success for every target river.

Step 1: Baseline Life-Cycle Metrics & Population Dynamics

Before investigating specific physical or environmental barriers, researchers must establish a precise baseline of population dynamics for each target river. This study tracks the three most critical phases of the salmon lifecycle within the river ecosystem. Collecting this data allows scientists to calculate exactly what percentage of the population is lost at each life stage, pointing directly to whether mortality is happening during the upstream adult migration or the downstream juvenile migration.

Items to be Studied:

- ✓ **Adult Return Rate:** The total number of adult salmon entering the river's mouth from the sea each season, measured via DIDSON/ARIS sonar counters, fish wheels, or video monitoring stations.
- ✓ **Adult Pre-Spawn Mortality Rate:** The percentage of returning adults that enter the river but die from stress, disease, or predation before successfully depositing or fertilizing eggs.
- ✓ **Juvenile Out-Migration (Smolt) Rate:** The total number of juvenile salmon (smolts) that successfully migrate downriver and enter the sea the following spring, quantified using rotary screw traps and acoustic tagging arrays.

Step 2: Technical & Structural Obstacle Field Assessment

This assessment focuses on mapping the permanent and semi-permanent physical characteristics of the river corridor. Physical barriers block salmon migration by demanding more physical energy than the fish possess or by physically sealing off upstream gravel beds. By measuring riverbed geology and fluid dynamics under fluctuating flow regimes, engineers can identify exactly which structures create absolute blocks or exhausting delays during the peak upstream run.

Items to be Studied:

- **Solid Rock Bed Height & Longitudinal Profile:** Airborne topo-bathymetric LiDAR scanning to map the exact elevation of the continuous bedrock channel to find natural waterfalls, steep steps, and impassable drops.
- **Water Level & Critical Depth Fluctuations:** Continuous water-level data loggers installed at natural choke points to flag shallow riffles where water drops below the minimum depth required for adult passage.
- **Hydraulic Velocity & Flow Profiles:** Acoustic Doppler Current Profiler (ADCP) measurements at rapids and man-made barriers to map water speeds that exceed the maximum burst swimming speed of salmon.
- **Anthropogenic Structural Barriers:** Structural and engineering audits of all dams, culverts, road crossings, and water diversion weirs to evaluate fish ladder performance and passage efficiency.
- **Hydraulic Modeling (HEC-RAS):** Computer-simulated flow models across a spectrum of drought and flood scenarios to predict at which specific flow rates a barrier becomes completely impassable.

Step 3: Non-Technical Environmental, Biological, & Predation Audits

This study evaluates the dynamic chemical, thermal, and biological stressors that degrade water quality and actively trigger disease outbreaks or predation. Unlike concrete dams, environmental barriers are often invisible, fluctuating with the weather, industrial output, and ecological imbalances. Identifying these variables allows managers to pinpoint where warm water, chemical runoff, or localized predators are causing adult pre-spawn mortality or decimating downward migrating smolts. Items of interests: Estuary Run, Mid-River Stretch, Headwaters, Sea Lice Infestation, Industrial and Agricultural Pollution, Chemical Wastewater and Incidental Pollution, Saprolengnia Fungus, Mammal Predation, High Thermal Stress, Avian Predation.

Items to be Studied:

- **High-Resolution Thermal Mapping:** Networks of digital temperature loggers combined with forward-looking infrared (FLIR) aerial drone imaging to identify thermal blocks (water temperatures exceeding) and locate cold-water thermal refugia.

- **Chemical Pollution & Water Quality Fingerprinting:** Automated water sampling stations upstream and downstream of agricultural, urban, or industrial zones to monitor dissolved oxygen (DO) drops (below), pH shifts, heavy metals, and pesticide concentrations.
- **Parasitic Infestation Dynamics:** Field sampling of returning adults in the lower estuary to count sea lice (*Lepeophtheirus salmonis*) or freshwater parasites, mapping infestation intensity against nearby open-net fish farms.
- **Fungal Infection (*Saprolegnia*) Prevalence:** Systematic riverbank and drone surveys to count and biopsy infected fish, tracking how fungal spread correlates with high water temperatures, physical injuries, and low river flows.
- **Wildlife Predator Impact Analysis:** Spatial mapping of predator concentrations, tracking seal and sea lion counts in the estuary, merganser and heron nesting density along smolt corridors, and bear, otter's and all other wildlife activity near shallow upstream choke points.

Step 4: Data Integration & River Restoration Action Plan

The final phase combines the physical, chemical, and biological data into a single geo-referenced diagnostic database. By overlaying the lifecycle mortality data from Step 1 with the physical barriers from Step 2 and the environmental stressors from Step 3, managers can clearly see which issues are causing the most damage. This diagnostic approach eliminates guesswork, ensuring that restoration budgets are spent on the highest-priority fixes for each individual river system.

Items to be Studied:

- **Barrier Prioritization & Lifecycle Matrix:** A combined analysis ranking every barrier by its total impact on fish mortality, pinpointing where physical modifications will yield the highest jump in spawning rates.
- **Climate Change Vulnerability Forecasting:** Hydrological and thermal forecasting models that project how predicted shifts in rainfall, snowpack melt, and air temperatures will impact river depths and thermal barriers over the next 30 years.
- **Engineering & Ecological Restoration Roadmap:** A localized, site-specific action plan outlining precise engineering fixes (e.g., dam removals, fish ladder modifications, riparian tree planting for shade, or predator exclusion zones) to maximize wild salmon survival and long-term reproduction.

Arcticus Blancus Indigenous Summary

The findings presented in this document confirm that the survival of wild salmon—and therefore the survival of the Arcticus Blancus Indigenous group—is at a critical turning point. The documented up to 90% mortality rate of salmon attempting to reach their spawning grounds represents not only an ecological collapse but a direct threat to Indigenous food security, cultural continuity, and territorial rights. Climate-driven shallowing, excessive rock obstacles, warm water, exhaustion, sea-lice infestation, pollution, and the disruptive migration of escaped farmed salmon collectively undermine the biological integrity of wild salmon populations and destabilize the ecosystems that depend on them.

The analysis of river systems across Alaska, Canada, Greenland, Iceland, Norway, Sweden, Finland, Karelia, Murmansk, and Archangelsk demonstrates that these pressures are not isolated but systemic. In several regions, non-Indigenous high-limit fishing practices further reduce survival rates and damage surrounding forest ecosystems, reinforcing the need for Indigenous-led ecological governance. The collapse of Chinook populations, the multi-year fishing moratoria on the Yukon and Kuskokwim rivers, and the widespread en-route mortality events illustrate the severity of the crisis and the urgency of intervention.

The legal and diplomatic actions undertaken by Eugenix® P.S.A.—including petitions to the European Parliament, communications with Nordic embassies, and filings with national ministries—affirm the right of Arcticus Blancus to reclaim stewardship over their biological and ecological resources. These actions are grounded in UNDRIP, the Convention on Biological Diversity which recognize the sovereign right of Indigenous peoples to manage their lands, waters, genetic resources, and traditional food systems.

The evidence presented in this document shows that Indigenous-led river adaptations offer a realistic and measurable pathway to recovery. Even a modest improvement in survival rates would multiply spawn success, while a 50% or greater improvement would restore nutrient cycles, forest health, predator populations, and long-term ecological stability. Protecting wild salmon genetics from

contamination by weakened farmed salmon, eliminating harmful aquaculture practices, and restoring natural migration pathways are essential steps toward rebuilding resilient salmon populations.

In conclusion, the restoration of wild salmon is not merely an environmental objective—it is a matter of Indigenous survival, legal sovereignty, and ecological justice. The Arcticus Blancus people possess the knowledge, rights, and responsibility to protect their rivers, forests, and biological heritage.

This document establishes a clear scientific, legal, and cultural foundation for action. The path forward requires coordinated Indigenous leadership, international recognition, and the implementation of river-adaptation measures that honor both ecological reality and Indigenous rights. The future of wild salmon—and the future of Arcticus Blancus—depends on the decisions made now.

K Pawlak

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Arctic Magnetic Earth Naturalist
Arctic Mankind Extinction Noticed
Antarctic Mass Excavation Nonetheless

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